



CIVIL-TECH CONSULTANTS AND ENGINEERS

Building & Highway Material Testing Laboratory

An ISO 9001:2008 Certified Company

NABL - Accredited Laboratory as per ISO / IEC-17025 : 2005



Job No. CTCE/BBMP/SJ/W.No.02/WMM/Gradation/2016-17

16.07.2016

GRADATION FOR WMM MORTH TABLE-400-11

Client : Asst. Executive Engineer, Yelahanka Sub Division, BBMP, Bangalore.

Agency : Mr. S. Jagadish, Contractor, Bangalore.

Name of Work : Providing pot hole filling to Yelahanka old town area in Ward No.02 of Yelahanka Sub Division, BBMP, Bangalore.

Reference : AEE/BBMP/YSD/AE-2/465/2016-17 Dated: 14.07.2016

Date of Testing : 16.07.2016

Material : WMM

Sample Location : WMM Mix Plant

Oven Dry Wt (gm): 8065



Is Sieve Size in mm	Weight Retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Spec.Limits
53	0	0	0	100	100
45	165	165	2.0	98.0	95-100
22.4	2505	2670	33.1	66.9	60-80
11.2	1215	3885	48.2	51.8	40-60
4.75	1080	4965	61.6	38.4	25-40
2.36	990	5955	73.8	26.2	15-30
0.600	850	6805	84.4	15.6	8-22
0.075	810	7615	94.4	5.6	0-8

Note:

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16.07.2016

Aggregate Impact Value

IS: 2386 Part IV

Client	Asst. Executive Engineer, Yelahanka Sub Division, BBMP, Bangalore.
Agency	Mr. S. Jagadish, Contractor, Bangalore.
Name of the Work	Providing pot hole filling to Yelahanka old town area in Ward No.02 of Yelahanka Sub Division, BBMP, Bangalore.
Reference	AEE/BBMP/YSD/AE-2/465/2016-17 Dated: 14.07.2016
Source / Location	WMM Plant
Type of Mix	Wet Mix macadam
Date of Testing	16.07.2016



Sl No.	Details	Trial No.		Average
		1	2	
1	Total weight of aggregate sample filling the cylindrical measure = W_1 g	385	386	21.92
2	Weight of aggregate passing 2.36 mm sieve after the test = W_2 g	84	85	
3	Weight of aggregate retained 2.36 mm sieve after the test = W_3 g	301	301	
4	Aggregate Impact value = percent fines	21.82	22.02	
	$100 \times (W_2/W_1) \%$			

Comments:

→ Maximum allowable Aggregate Impact value for Wet mix Macadam is 30%

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16.07.2016

DETERMINATION OF FLAKINESS INDEX & ELONGATION INDEX OF COARSE AGGREGATES

Client	Asst. Executive Engineer, Yelahanka Sub Division, BBMP, Bangalore.
Agency	Mr. S. Jagadish, Contractor, Bangalore.
Name of Work	Providing pot hole filling to Yelahanka old town area in Ward No.02 of Yelahanka Sub Division, BBMP, Bangalore.
Reference	AEE/BBMP/YSD/AE-2/465/2016-17 Dated: 14.07.2016
Technical Reference	IS 2386(Part 1) 1963 (RA 2011)
Type of Mix	Wet Mix Macadam
Date of Testing	16.07.2016



Result : Flakiness Index = 11.58%

Elongation Index = 13.25%

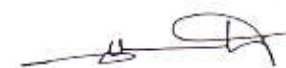
Result : Combined Flakiness & Elongation index = 24.83%

Comments:

Maximum allowable Flakiness & Elongation Index for Wet Mix Macadam is 30%

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Job No: CTCE/BBMP/SJ/W.No.02/BC/Bitumen/2016-17

18.07.2016

BITUMEN CONTENT DETERMINATION OF BITUMINOUS CONCRETE MIX

As per IRC:SP:11-1984

CLIENT	Asst. Executive Engineer, Yelahanka Sub Division, BBMP, Bangalore.
AGENCY	Mr. S. Jagadish, Contractor, Bangalore.
NAME OF THE WORK	Providing pot hole filling to Yelahanka old town area in Ward No.02 of Yelahanka Sub Division, BBMP, Bangalore.
REFERENCE SAMPLE I/D	AEE/BBMP/YSD/AE-2/465/2016-17 Dated: 14.07.2016 Pot hole filling to Roads in Yelahanka old town area in Ward No.02
DATE OF TESTING	18.07.2016



BITUMEN CONTENT DETERMINATION

Description	Trail 1	Trail 2
1. Weight of Mixture before Test, g	500	500
2. Weight of Mixture after Test, g	474	474
3. Weight of Asphalt and Mineral matter Extracted, g	-	-
4. Weight of Mineral Matter, g	-	-
5. Weight of Ash, g		
6. Weight of Bitumen Extracted, g. (corrected)	26	26.00
7. Bitumen content in %	5.20	5.20
8. Average	5.20	

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BITUMEN CONTENT AFTER GRADATION DETERMINATION OF BITUMINOUS CONCRETE MIX

As Per IS 2386 and IRC:SP:11-1984

CLIENT	Asst. Executive Engineer, Yelahanka Sub Division, BBMP, Bangalore.
AGENCY	Mr. S. Jagadish, Contractor, Bangalore.
NAME OF THE WORK	Providing pot hole filling to Yelahanka old town area in Ward No.02 of Yelahanka Sub Division, BBMP, Bangalore.
REFERENCE	AEE/BBMP/YSD/AE-2/465/2016-17 Dated: 14.07.2016
SAMPLE I/D	Pot hole filling to Roads in Yelahanka old town area in Ward No.02.
DATE OF TESTING	18.07.2016



GRADATION AFTER EXTRACTION

Sieve Size in mm	Trail 1				Specified Limits as per MORTH specification table 500-18 (Grading-2)
	Weight Retained, gm	% Retained	%Cummulative Retained	% Passing	
19	0	0	0	100	100
13.2	45.36	9.57	9.57	90.43	79-100
9.5	35.26	7.44	17.01	82.99	70-88
4.75	70.25	14.82	31.83	68.17	53-71
2.36	66.36	14.00	45.83	54.17	42-58
1.18	52.15	11.00	56.83	43.17	34-48
0.6	51.39	10.84	67.67	32.33	26-38
0.3	45.25	9.55	77.22	22.78	18-28
0.15	40.22	8.49	85.70	14.30	12-20
0.075	36.36	7.67	93.38	6.62	4-10

Sieve Size in mm	Trail 2				Specified Limits as per MORTH specification table 500-18 (Grading-2)
	Weight Retained, gm	% Retained	%Cummulative Retained	% Passing	
19	0	0	0	100	100
13.2	36.35	7.67	7.67	92.33	79-100
9.5	45.25	9.55	17.22	82.78	70-88
4.75	66.36	14.00	31.22	68.78	53-71
2.36	72.18	15.23	46.44	53.56	42-58
1.18	73.36	15.48	61.92	38.08	34-48
0.6	41.28	8.71	70.63	29.37	26-38
0.3	32.26	6.81	77.43	22.57	18-28
0.15	26.36	5.56	83.00	17.00	12-20
0.075	45.25	9.55	92.54	7.46	4-10

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